

ASSIGNMENT 4

Textbook Assignment: "Plotting Standards"; chapter 4, pages 4-1 through 4-38.

- 4-1. In the geographical coordinate system, which coordinate lines extend (a) north/south, and (b) east/west?
1. (a) Parallels of latitude
(b) meridians of longitude
 2. (a) Parallels of longitude
(b) meridians of latitude
 3. (a) Meridians of longitude
(b) parallels of latitude
 4. (a) Meridians of latitude
(b) parallels of longitude
- 4-2. On any chart, 60 nautical miles equals
1. 1° of longitude
 2. 1° of latitude
 3. 1° of longitude arc
 4. 1° of latitude arc
- 4-3. When meteorological positions are converted during encoding, what would be the equivalent value of $27^\circ 16' 12''$?
1. 27.2
 2. 27.3
 3. 27.4
 4. 28.0
- 4-4. In the Universal Transverse Mercator Grid system, grid zone boundaries are the latitude and longitude lines.
1. True
 2. False
- 4-5. Which of the following is a designation for a position on the 10,000-meter grid?
1. 57T
 2. 36MAB
 3. 27ABC 28
 4. 45IOX 10
- 4-6. When you are reading a grid position such as 27GHM 12345678, where is the position within the "HM" 100,000-meter grid?
1. East 12340 meters, North 56780 meters
 2. East 1234 meters, North 5678 meters
 3. East 56780 meters, North 12340 meters
 4. East 5678 meters, North 1234 meters
- 4-7. Where are the grid lines truly parallel to the longitude lines?
1. At the equator
 2. At the center of each grid zone
 3. At the left side of each grid zone
 4. At the right side of each grid zone
- 4-8. In the Universal Polar Sterographic Grid, what are the two grid zones used in the north polar region?
1. A and B
 2. Y and Z
 3. W and X
 4. W and Z

- 4-9. A rhumb line track is a straight line drawn on what type of chart?
1. Gnomonic
 2. Polar stereographic
 3. Mercator
 4. Lambert conformal
- 4-10. Of the following charts, which one is the smallest scale chart?
1. Chart measures 4 ft by 4 ft with a scale of 1:5,000
 2. Chart measures 4 ft by 4 ft with a scale of 1:20,000
 3. Chart measures 2 ft by 2 ft with a scale of 1:6,000
 4. Chart measures 2 ft by 2 ft with a scale of 1:25,000
- 4-11. Which of the following federal agencies produces most of the maps and charts used by the U.S. military?
1. NAVOCEANO
 2. Federal Aviation Administration (FAA)
 3. The National Imagery and Mapping Agency/Topographic Center (NIMA)
 4. Department of Transportation
- 4-12. In the complete WMO international block/station number, how many numbers identify the (a) block and (b) individual station?
1. (a) Two (b) three
 2. (a) Two (b) four
 3. (a) Three (b) three
 4. (a) Three (b) four
- 4-13. Within the United States, which of the following letter or letter/number groups follows the format of a national station identifier?
1. 724090
 2. KBIX
 3. BIX
 4. BIX9A
- 4-14. Which of the following station identifiers is an ICAO station identifier?
1. 724095
 2. KLAX
 3. JFK
 4. 63W
- 4-15. Which of the following sources contains the most comprehensive listing of station identifiers cross-referenced to latitude and longitude?
1. DMA catalog
 2. OPARS Data Base
 3. FAA Order 7250.4, Location Identifiers
 4. DoD Flight Information Publication (En route), IFR Supplement -United States
- 4-16. Which of the following terms refers to a display of conditions anticipated to occur at some time in the future?
1. Map
 2. Chart
 3. Analysis
 4. Prognosis
- 4-17. What term refers to a forecaster's interpretation of alphanumeric or graphic products?
1. Prognosis
 2. Forecast
 3. Analysis
 4. Briefing Aid

4-18. When two sets of history are placed on a chart, which of the following colors are used for (a) the oldest history and (b) the most recent history?

1. (a) Yellow, (b) orange
2. (a) Black, (b) yellow
3. (a) Orange, (b) yellow
4. (a) Yellow, (b) black

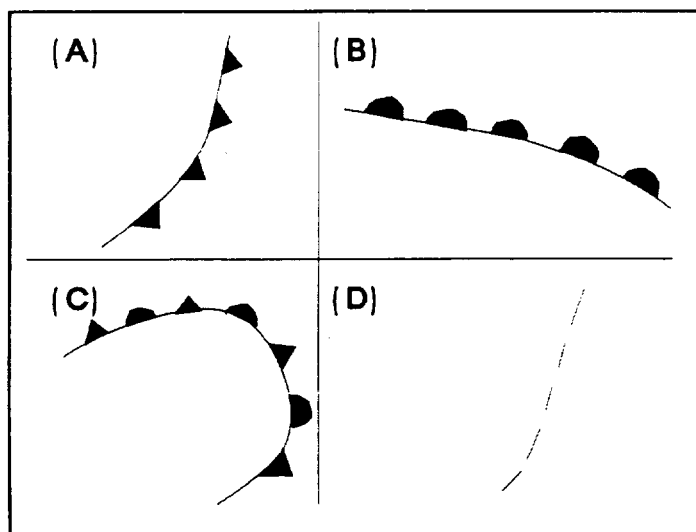


Figure 4-A

IN ANSWERING QUESTIONS 4-19 THROUGH 4-22, REFER TO FIGURE 4-A. RESPONSES ARE USED ONLY ONCE.

4-19. What symbol is used to depict the axis of a trough?

1. A
2. B
3. C
4. D

4-20. What symbol depicts a cold front at the surface?

1. A
2. B
3. C
4. D

4-21. What symbol depicts an occluded front at the surface?

1. A
2. B
3. C
4. D

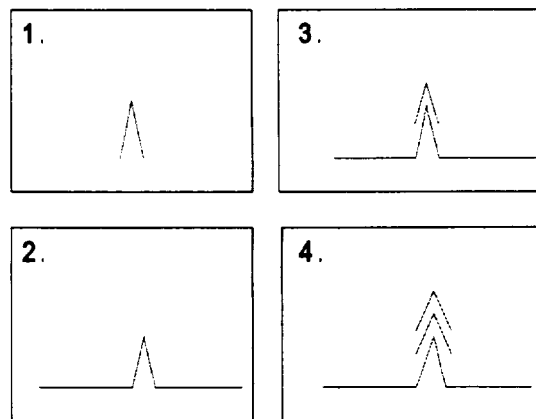
4-22. What symbol depicts a warm front at the surface?

1. A
2. B
3. C
4. D

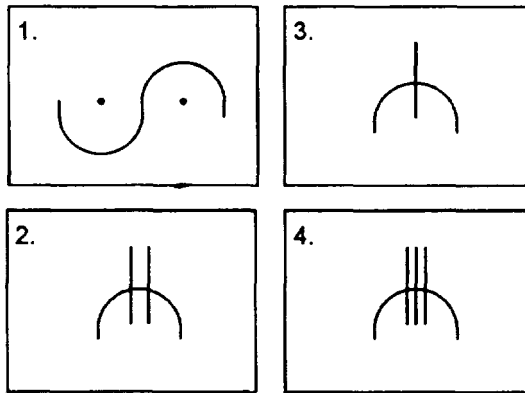
4-23. What color is used to indicate a convergent asymptote on a streamline chart?

1. Blue
2. Black
3. Orange
4. Red

4-24. What symbol is used to show moderate clear air turbulence?



4-25. What symbol is used to show light clear icing?



4-26. What is the isoline name for values of equal wind speed?

1. Isobar
2. Isotach
3. Isotherm
4. Isoheight

4-27. Isodrosotherms are drawn to connect lines of equal

1. thickness
2. dew-point depression
3. dew-point temperature
4. precipitation amounts

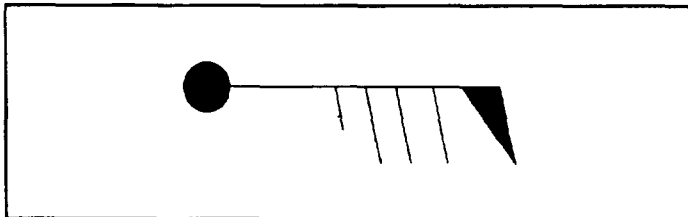


Figure 4-B

IN ANSWERING QUESTION 4-28, REFER
TO FIGURE 4-B. ASSUME THAT TRUE NORTH
IS AT THE TOP OF THIS PAGE.

4-28. What (a) wind direction and (b) wind speed is indicated by the plotted wind?

1. (a) 270° (b) 45 knots
2. (a) 270° (b) 85 knots
3. (a) 090° (b) 45 knots
4. (a) 090° (b) 85 knots

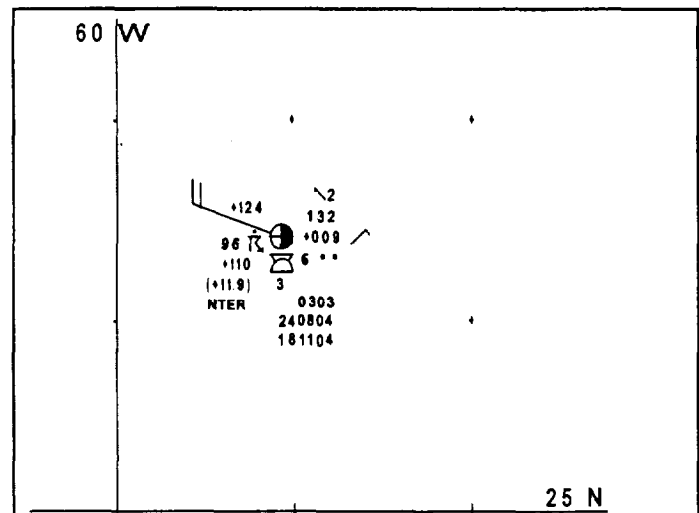


Figure 4-C

IN ANSWERING QUESTIONS 4-29 THROUGH 4-31, REFER TO FIGURE 4-C. THIS FIGURE IS A SURFACE SYNOPTIC SHIP OBSERVATION PLOT FOLLOWING THE WMO COMPLETE SYMBOLIC MODEL.

4-29. What value is plotted for sea level pressure?

1. 009
2. +124
3. 132
4. 303

4-30. What value is plotted for sea-surface temperature?

1. 96
2. +110
3. +11.9
4. +124

4-31. What is the reported code figure for low-cloud height?

1. 2
2. 3
3. 6
4. 9

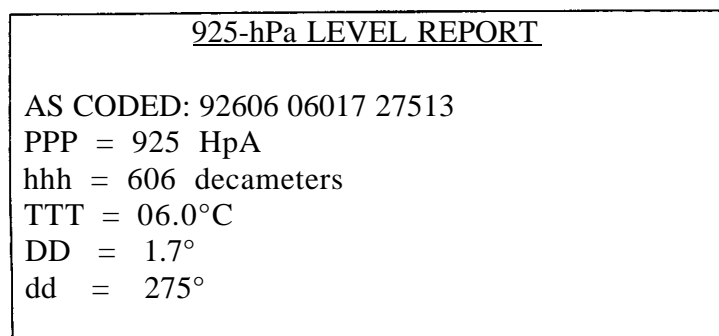
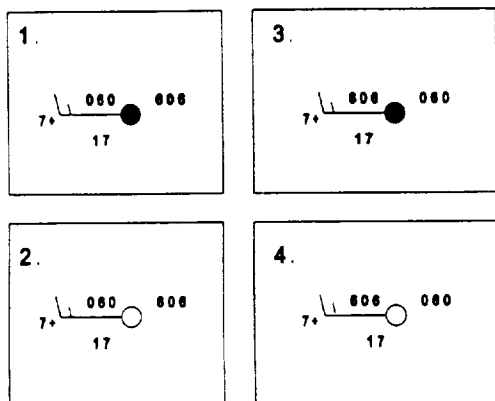


Figure 4-D

IN ANSWERING QUESTION 4-32, REFER TO FIGURE 4-D.

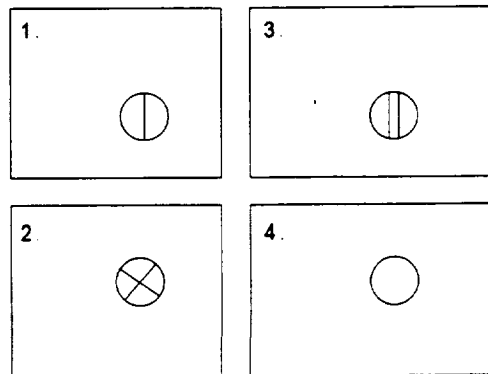
4-32. Which of the following 925-hPa level plots is correctly plotted for the information reported in figure 4-D?



4-33. When are METAR observations usually plotted on a chart?

1. When received
2. When plotting an LAWC
3. When synoptic reports are considered inaccurate
4. When the forecaster is interested in an ocean area

4-34. When plotting the total cloud coverage (N) reported in a METAR observation report, how should "BKN" be plotted?



4-35. Isotherm contours on an SST analysis are usually drawn at what interval?

1. Every 2°C
2. Every 2°F
3. Every 4°C
4. Every 4°F

4-36. What type of data is considered the most reliable for sea-surface temperature charts?

1. All IR satellite data
2. Only calibrated IR satellite data from low-moisture, cloud-free areas
3. Bathythermograph observations
4. Ship reported SST

- 4-37. When arrows are drawn for wave directions, swell-wave directions are indicated by a "wavy" arrow from the station circle pointing toward the reported direction.
1. True
 2. False
- 4-38. On the Skew T, Log P diagram, what is the orientation of isotherms?
1. Horizontal
 2. Vertical
 3. Right-diagonal
 4. Left-diagonal
- 4-39. The saturation-adiabatic lapse rate is the rate at which
1. moist air cools as it rises
 2. dry air cools as it rises
 3. saturated air cools as it rises
 4. actual air in the atmosphere cools as it rises
- 4-40. What do the dashed, right-diagonal green lines represent on a Skew T, Log P diagram?
1. Mixing ratio
 2. Isobars
 3. Saturation adiabats
 4. U.S. standard atmosphere
- 4-41. When adding a pressure altitude scale to a Skew T, Log P diagram, altitude values are added to the isotherms so that each 10°C change in temperature equals how much of an altitude change?
1. 100 meters
 2. 1,000 meters
 3. 1,500 meters
 4. 10,000 meters
- 4-42. In which of the following parts of the TEMP SHIP code would you find temperature and dew-point information for 756 hPa?
1. Part A
 2. Part B
 3. Part C
 4. Part D
- 4-43. When you are plotting only the current upper-air observation on a Skew T, Log P diagram, what color(s) should you use?
1. Blue for all plots
 2. Red for all plots
 3. Red for temperature, blue for dew point, black for pressure altitude
 4. Red for temperature, black for dew point, blue for pressure altitude
- 4-44. Of the three digits reported in the TEMP codes for the altitude of each pressure level, which of the following levels is prefixed with a "1" and suffixed with a "0" to obtain the altitude in meters?
1. 850-hPa
 2. 700-hPa
 3. 300-hPa
 4. 250-hPa
- 4-45. Which of the following symbols is used to indicate a temperature plot on a Skew T, Log P diagram?
1. Triangle
 2. Circle
 3. Square
 4. Diamond
- 4-46. What is the actual dew-point depression given a code figure of 57 in the Upper Air code?
1. 5.7°F
 2. 7.0°F
 3. 5.7°C
 4. 7.0°C

- 4-47. When tropopause information is plotted, and group 88999 is reported, the block letters NO TROP are written just to the right of the colored portion of the diagram at what hPa level?
1. 100 hPa
 2. 200 hPa
 3. 300 hPa
 4. 400 hPa
- 4-48. Should sea-surface temperature be plotted on the Skew T, Log P diagram? If so, where?
1. Yes; in the analysis block
 2. Yes; in the top margin of the diagram
 3. Yes; in the bottom margin of the diagram directly under the temperature trace
 4. No; it is not plotted
- 4-49. As used in ship movement reports, what is the check-sum for the number group 079-28W?
1. 6
 2. 7
 3. 8
 4. 9
- 4-50. The term "speed of advance" and "indicated speed" mean the same thing.
1. True
 2. False
- 4-51. What type of background should you use to plot great circle routes?
1. Polar stereographic
 2. Mercator projection
 3. Lambert conformal
 4. Rhumb line

